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UTILITY PATENT APPLICATION TRANSMITTAL

Only for nonprovisional applications under 37 CFR § 1.53(b)

Attorney Docket No.	291508006US1
First Inventor or Application Identifier	291508006US1
Title	TARGETING ELECTRONIC ADVERTISING PLACEMENT IN ACCORDANCE WITH AN ANALYSIS OF USER INCLINATION AND AFFINITY
Express Mail Label No.	EL696997025US

JC951 U.S. PTO 10/30/00

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Box Patent Application
Commissioner for Patents
Washington, D.C. 20231

1. [ ] Authorization for Extensions & Fee Transmittal *(Submit an original and a duplicate for fee processing)*

2. [X] Specification [Total Pages] **22**
(preferred arrangement set forth below)
- Descriptive Title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to sequence listing, a table, or a computer program listing appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings *(if filed)*
- Detailed Description
- Claim(s)
- Abstract of the Disclosure

3. [ ] Applicant claims small entity status See 37 CFR 1.27

4. [X] Drawing(s) *(35 USC 113)* [Total Sheets] **1**

5. Oath or Declaration [Total Pages]
a. [ ] Newly executed (original or copy)
b. [ ] Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional with Box 17 completed)*
   i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)

6. [ ] Application Data Sheet. (See 37 CFR 1.76)

7. [ ] CD-Rom or CD-R in duplicate, large table or Computer Program *(Appendix)*

8. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
a. [ ] Computer-Readable Copy
b. Specification Sequence Listing on:
   i. [ ] CD-ROM or CD-R (2 copies); or
   ii. [ ] paper
c. [ ] Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. [ ] Assignment Papers (cover sheet & document(s))
10. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)*   [ ] Power of Attorney
11. [ ] English Translation Document *(if applicable)*
12. [ ] Information Disclosure Statement (IDS)/PTO-1449   [ ] Copies of IDS Citations
13. [ ] Preliminary Amendment
14. [X] Return Receipt Postcard
15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. [ ] Other: _____

09/702004 jc916 U.S. PTO   10/30/00

17. If a CONTINUING APPLICATION, *check appropriate box and supply the requisite information below and in a preliminary amendment*

[ ] Continuation   [ ] Divisional   [ ] Continuation-In-Part (CIP)   of prior Application No.: _____

Prior application information: Examiner _____   *Group / Art Unit* _____

For CONTINUATION or DIVISIONAL apps only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

[X] Claims the benefit of Provisional Application No. **60/167,060 filed November 22, 1999**

18. CORRESPONDENCE ADDRESS

Customer Number 25096 / Barcode

25096
PATENT TRADEMARK OFFICE

Respectfully submitted,

TYPED or PRINTED NAME Steven D. Lawrenz   REGISTRATION NO. 37,376

SIGNATURE _____   Date 10/30/00

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TARGETING ELECTRONIC ADVERTISING PLACEMENT IN ACCORDANCE WITH AN ANALYSIS OF USER INCLINATION AND AFFINITY

CROSS REFERENCE TO RELATED APPLICATION

This application claims the benefit of U.S. Provisional Patent Application No. 60/167,060 filed November 22, 1999 which is hereby incorporated by reference.

TECHNICAL FIELD

The present invention is directed to electronic advertising techniques.

BACKGROUND

As computer use, and particularly the use of the World Wide Web, becomes more and more prevalent, the volumes of Internet advertising presented grow larger and larger. As part of this growth, the number of Internet publishers on which it is possible to purchase advertising space for Internet advertising is rapidly expanding. As the number of Internet publishers grows, it becomes increasingly important to successfully identify Internet publishers that provide an effective venue for the Internet advertising messages of particular advertisers.

Accordingly, a facility for more effectively targeting Internet advertising placement for an Internet advertiser to particular Internet publishers would have significant utility.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a high-level block diagram showing the environment in which the facility preferably operates.

DETAILED DESCRIPTION

A software facility for identifying Internet publishers and other electronic publishers on which to place advertising messages for particular advertisers using an

assessment of user inclination and affinity is provided. In order to identify publishers on which to place advertising messages of an advertiser, the facility determines which of the publishers' web sites are commonly visited by visitors to the advertiser's web site. In particular, the facility does so by assessing a metric, called user inclination, that reflects the percentage of users observed to visit both the publisher web site and the advertiser's web site. The facility preferably uses this inclination metric, and/or variations thereon, to select Internet publishers upon which to place advertising messages for the advertiser. The facility preferably also performs an analysis to identify additional "affinity publishers" that are heavily visited by visitors to publisher web sites that have proven to have a high return on investment for the advertiser in question.

Figure 1 is a high-level block diagram showing the environment in which the facility preferably operates. The diagram shows a number of Internet user computer systems 101-104. An Internet user preferably uses one such Internet user computer system to connect, via the Internet 120, to an Internet publisher computer system, such as Internet publisher computer systems 131 and 132, to retrieve and display a Web page. The term "Internet publisher" refers to individuals and organizations that make web pages accessible via the World Wide Web, and, in particular, those that sell the opportunity to advertise in some manner ("advertising space") on those web pages.

In cases where an Internet advertiser, through the Internet advertising service, has purchased advertising space on the Web page provided to the Internet user computer system by the Internet publisher computer system, the Web page contains a reference to a URL in the domain of the Internet advertising service computer system 140. When a user computer system receives a Web page that contains such a reference, the Internet user computer systems sends a request to the Internet advertising service computer system to return data comprising an advertising message, such as a banner advertising message. When the Internet advertising service computer system receives such a request, it selects an advertising message to transmit to the Internet user computer system in response the request, and either itself transmits the selected advertising message or redirects the request containing an identification of the selected advertising message to an Internet content distributor computer system, such as Internet content distributor computer systems 151 and 152. When the Internet user computer system receives the selected advertising message, the Internet user computer system displays it within the Web page.

The displayed advertising message preferably includes one or more links to Web pages of the Internet advertiser's Web site. When the Internet user selects one of these links in the advertising message, the Internet user computer system references the link to retrieve the Web page from the appropriate Internet advertiser computer system, such as Internet advertiser computer system 161 or 162. The link to the web page of the Internet advertiser's web page is preferably processed through the Internet advertising service computer system 140 to permit the Internet advertising service computer system 140 to monitor the traversal of such links. In visiting the Internet advertiser's Web site, the Internet user may traverse several pages, and may take such actions as purchasing an item or bidding in an auction. Revenue from such actions typically finances, and is often the motivation for, the Internet advertiser's Internet advertising. In some embodiments, an advertiser may instrument particular web pages on its web site in a way that notifies the advertising service when a user visits that page of the advertiser's web site.

The Internet advertising service computer system 140 preferably includes one or more central processing units (CPUs) 141 for executing computer programs such as the facility, a computer memory 142 for storing programs and data, and a computer-readable media drive 143, such as a CD-ROM drive, for reading programs and data stored on a computer-readable medium. The Internet advertising service computer system preferably stores a log entry each time it processes a request to return an advertising message, a request to traverse a link to a web page of the Internet advertiser's web page, or notification that the user has visited a particular page of the Internet advertiser's web site. Each log entry preferably contains a user identifier identifying the user performing the noted action. In some embodiments, the user identifiers contained by log entries are collected by storing the user identifiers in a persistent "cookie" stored on the computer system of each user for the domain of the advertising service. Each time an HTTP request is transmitted from such a user to a web server in the domain of the advertising service, the user identifier stored in the cookie is included in the request.

In some embodiments, the facility performs its inclination and affinity analyses based on the contents of this stored log. In some embodiments, log entries covering a significant period of time, such as three months or six months, are used in the analyses. In some embodiments, only users that have seen advertising messages or triggered action tags over a period greater than 24 hours are used in the analyses. Additional similar filtering

techniques may also be used. In other embodiments, the facility performs its inclination and/or affinity analyses based upon other data regarding user behavior, such as data gathered by observing the web traffic for a user and analyzing contents or other attributes of advertising messages appearing therein, or based upon data obtained from other sources.

The inclination metric measures where an advertiser naturally finds its customers, and is formally stated for a particular publisher as

$$p(\text{visited advertiser}|\text{visited publisher}):$$

the probability that a particular user who visited the publisher also visited the advertiser.

The inclination metric is calculated by dividing the number of unique users that visited the publisher in question and the home page of the advertiser (or another page of the advertiser's web site) by the number of unique users that visited the publisher in question. Table 1 below shows the inclination analysis for a sample advertiser named Garments.com.

Inclination for Garments.com, December 1999			
publisher	unique user identifiers seen at publisher	# of user identifiers seen both at publisher site and at advertiser's home page	inclination
Sweater City	50,000	1,000	2.0%
LittlePortal	1,000,000	3,000	0.3%
BigPortal	5,000,000	40,000	0.8%

Table 1

To perform the analysis, the facility selects a group of publishers with which the Internet advertising service has placed advertising messages. For example, the facility may select all of the publishers with which the Internet advertising service has placed advertising messages for any advertiser.

For each of these publishers, the facility identifies the number of different users, identified by unique user identifiers, that the Internet advertising service has observed visiting the publisher. This number is preferably obtained by reading the web server log for records indicating that an advertising message was displayed at the publisher to a user having

a unique user identifier. In the example, the facility determines that 50,000 different users were observed visiting the Sweater City publisher.

The facility then determines, for each publisher, the number of unique user identifiers seen at the publisher that were also seen at the home page of the advertiser's web site. The facility preferably determines this number for each publisher by, for each of the unique user identifiers seen at the publisher's web site, determining whether the log contains a record indicating that a user having the same user identifier visited the advertiser's home page. In the example, the facility determines that, of the 50,000 different users observed to visit the Sweater City publisher's web site, 1,000 of these users were also seen at the advertiser's home page. The facility then determines the inclination level of visitors to each of the publishers toward the advertiser by dividing the number of user identifiers seen at the advertiser's home page over the total number of unique user identifiers seen at the publisher. In the example, the facility calculates an inclination of visitors to the Sweater City publisher's web site to the advertiser's home page of 2.0% by dividing 1,000 user identifiers seen at the client's home page by 50,000 unique user identifiers seen at Sweater City.

Since a publisher with high inclination is a web site where visitors to, and likely customers of, Garments.com tend to congregate, advertising at that publisher would seem to be likely to "hit" users who are natural Garments.com customers. In the above example, users who visit the Sweater City web site are users who like sweaters, and so visit Garments.com more than an average user. As advertising at Sweater City may be effective, the facility preferably favors purchasing advertising space for Garments.com from Sweater City over purchasing it from the other two publishers.

In some cases, inclination metrics determined as described above may be significantly biased, however. If the Internet advertising service had been presenting Garments.com advertising messages on BigPortal and not on LittlePortal, this would tend to increase the number of visitors to Garments.com that were also visitors to BigPortal relative to the number of visitors to Garments.com that were visitors to LittlePortal. In fact, if the advertiser had been advertising on AnotherPortal, and if a disproportionate number of users who visit AnotherPortal also visit BigPortal, then the BigPortal inclination would also appear fairly high. The high inclination is due, at least in part, to the BigPortal advertising campaign.

To remove this "advertising bias," the facility in one embodiment uses a corrected measure of inclination called "pure inclination." Pure inclination is the percentage of visitors to the publisher who have not seen an advertising message by the advertiser who visit the advertiser's web site. To determine pure inclination, the facility separates the unique user identifiers seen on each publisher into two groups: those who have seen one or more advertising messages for Garments.com, and those who have not. Table 2 below shows the pure inclination analysis for Garments.com.

Pure Inclination for Garments.com, December 1999			
publisher	unique user identifiers visiting publisher that never saw an advertising message for the advertiser	# of user identifiers seen at publisher that never saw an advertising message for the advertiser and at advertiser's home page	pure inclination
Sweater City	30,000	500	1.7%
LittlePortal	900,000	2,500	0.3%
BigPortal	4,000,000	16,000	0.4%

Table 2

Like the above-discussed determination of inclination, this determination of pure inclination indicates that Sweater City is a site where Garments.com visitors tend to congregate. This determination of pure inclination further indicates that advertising messages placed on LittlePortal and BigPortal would have almost the same advertising effectiveness for Garments.com.

If one publisher has higher pure inclination than another, there is significant reason to believe that the publisher with the higher pure inclination will respond to a campaign better than the other publisher, as users on the first publisher seem to be more inclined to the product than users who visit the second publisher. Accordingly, the facility preferably selects publishers at which to purchase space for future advertising messages for the advertiser on the basis of the pure inclinations of each publisher.

In some cases, advertiser web sites are heavily linked to related web sites. For example, some advertiser web sites are heavily linked to affiliate web sites, such as the web

sites of companies that have common ownership with the advertiser, or that have other business relationships with the advertiser. In such cases, some embodiments of the facility also exclude from the pure inclination metric users that visited the publisher and saw an advertising message for a web site related to the advertiser web site.

In a variation of pure inclination used by the facility, pure inclination is determined by dividing the number of unique users visiting the publisher before they viewed an advertising message for the advertiser by the number of those users that visited the advertiser's home page.

The facility preferably also determines a third metric for analyzing the effectiveness of advertising on particular publishers for specific advertisers called "view inclination." The facility determines view inclination by determining, of the unique user identifiers that have visited the publisher that have also seen an advertising message of the advertiser's, the percentage of those user identifiers seen at the advertiser's home page. Table 3 shows the calculation of view inclination for Garments.com.

View Inclination for Garments.com, December 1999			
publisher	unique user identifiers visiting publisher that have seen an advertising message of the advertiser's	# of user identifiers seen at publisher that have seen an advertising message of the advertiser's and at advertiser's home page	view inclination
Sweater City	20,000	500	2.5%
LittlePortal	100,000	500	0.5%
BigPortal	1,000,000	24,000	2.4%

Table 3

The facility preferably also uses a fourth metric to measure the effectiveness of advertising performed for the advertiser, called "comparative inclination." To determine comparative inclination, the facility preferably subtracts the pure inclination for each publisher from the view inclination for that publisher. A calculation of comparative inclination for the example is shown below in Table 4.

Comparative Inclination for Garments.com, December 1999			
Publisher	View Inclination	Pure Inclination	Comparative Inclination
Sweater City	2.5%	1.7%	.8%
LittlePortal	.5%	.3%	.2%
BigPortal	2.4%	.4%	2.0%

Table 4

It can be seen in Table 4 that advertising messages presented on BigPortal are likely to be significantly more effective than advertising messages presented on the other two publishers.

In addition to using one or more forms of inclination to identify Internet publishers on which to place advertisements for a particular advertiser, the facility preferably also uses an affinity analysis to identify Internet publishers on which to place advertisements for a particular advertiser. In its affinity analysis, the facility first selects one or more Internet publishers that have produced the highest return on investment when presenting advertisements for the advertiser in the past. For each of the selected publishers, the facility identifies one or more "affinity sites"—that is, additional Internet publishers that have been visited by a significant number of the users that have visited the selected publisher. Because the affinity sites are visited by many of the same users that visit the high-performing sites, they are likely to perform similarly well for the advertiser. For this reason, the facility preferably also places advertisements on one or more of the affinity sites.

Tables 5 and 6 below show an example of determining affinity metrics from the advertiser's perspective, between (a) a high return on investment publisher in a previous campaign for the advertiser and (b) other publishers. Table 5 shows a return on investment score for each of the publishers used in an earlier campaign for advertiser Garments.com. These return on investment scores are typically determined based upon, for a set of advertising messages for the advertiser presented on the publisher, factors indicating the level of success of the advertising from the advertiser's perspective as: the percentage of such advertisements that were "clicked-through;" the percentage of users that viewed such advertisements that later visited the advertiser's web page; the percentage of users that viewed such an advertising message that purchased something from the advertiser; the

average price of items purchased from the advertiser by users that viewed such advertising messages; the average profit margin of items purchased from the advertiser by users that viewed such advertising messages, etc.

Return on Investment for Earlier Campaign for Garments.com	
Publisher	Return on Investment Score
Clothes Horse	40.1
Entertaining Magazine	37.6
Just Slacks	18.3
Handbags Central	10.6
Shoe Shop	2.3
Hairstyle Magazine	1.4
Entertainment This Week	.8
Shop Today	.7
Sailing	.7

Table 5

It can be seen that the Clothes Horse and Entertaining Magazine publishers have significantly higher return on investment scores in the previous campaign than the other publishers. Accordingly, the facility proceeds to identify publishers having a high affinity with the Clothes Horse and Entertaining Magazine publishers.

Table 6 shows the determination of the affinity metric between the high return on investment publisher Clothes Horse and other, "candidate" publishers about which data is available.

Affinity for High Return on Investment Publisher Clothes Horse					
candidate publisher	unique user identifiers visiting both High Return on Investment Publisher and candidate publisher	unique user identifiers visiting High Return on Investment Publisher	unique user identifiers visiting candidate publisher	total user identifiers	affinity
Cologne Central	90,000	100,000	120,000	500,000	3.750
Hobby Horse	6,500	100,000	300,000	500,000	.108
Fashions by Monique	97,500	100,000	121,000	500,000	4.029
Auto Express	50	100,000	20,000	500,000	.012

Table 6

The affinity metric, formally stated as:

$$\frac{p(\text{visited candidate publisher}|\text{visited high return on investment publisher})}{p(\text{visited candidate publisher})}$$

is determined by dividing the product of the number of unique user identifiers visiting both the high return on investment publisher and the candidate publisher and the total number of active user identifiers by the number of users visiting the high return on investment publisher, and further divided by the number of users visiting the candidate publisher.

It can be seen by comparing the affinity scores for the four shown candidate publishers that the Cologne Central and Fashions By Monique publishers have the highest affinities with high return on investment publisher Clothes Horse. Accordingly, the facility preferably selects these two candidate publishers for use in the current advertising campaign for Garments.com.

While embodiments of the facility described above place advertising messages on World Wide Web sites for presentation to users on general-purpose computer systems using Web browsers, additional embodiments of the facility may be used with other communication channels and/or other types of devices. In particular, the facility may preferably be used to place advertising messages delivered to such special-purpose devices as

useral digital assistants, cellular and satellite phones, pagers, devices installed in automobiles and other vehicles, automatic teller machines, televisions, and other home appliances.

CLAIMS

1   1.   A method in a computing system for assessing, for a selected electronic

2   advertiser having a web site and each of a plurality of electronic publishers each also having

3   a website, a measure of the desirability of placing with the electronic publisher one or more

4   advertising messages for the selected electronic advertiser, comprising:

5   for each of a plurality of users, storing a user identifier on a computer system

6   used by the user;

7   when one of the plurality of users visits the electronic advertiser website,

8   receiving and storing an indication of a first type indicating that the user visited the

9   electronic advertiser website, the indication containing the user identifier stored on the

10   computer system used by the user;

11   when one of the plurality of users visits the website of one of the plurality of

12   electronic publishers, receiving and storing an indication of a second type indicating that the

13   user visited the electronic publisher website, the indication containing the user identifier

14   stored on the computer system used by the user and an identifier of the electronic publisher;

15   selecting the user identifiers contained in stored indications of the first type;

16   determining the number of unique selected user identifiers;

17   for each of the electronic publishers,

18   determining the number of selected user identifiers that are contained in at least

19   one indication of the second type that also contains an identifier of the electronic publisher to

20   obtain a count for the electronic publisher;

21   dividing the count for the electronic publisher by the number of unique selected

22   user identifiers to obtain an inclination metric for the electronic publisher;

23   analyzing the inclination metrics obtained for the electronic publishers; and

24   selecting one or more of the electronic publishers on which to place an

25   advertising message for the advertiser based upon the analysis.

1   2.   A method in a computing system for assessing, for a selected advertiser

2 and each of a plurality of candidate advertising outlets, a measure of the desirability of

3 placing with the candidate advertising outlet one or more advertising messages for the

4 selected advertiser, comprising, for each of the plurality of candidate advertising outlets:

5   identifying a plurality of users that have visited the candidate advertising

6 outlet;

7   counting the number of identified users that have also visited the selected

8 advertiser; and

9   generating for the candidate advertising outlet a metric that compares the

10 number of identified users to the number of counted users and constitutes a measure of the

11 desirability of placing with the candidate advertising outlet one or more advertising messages

12 for the selected advertiser.

1   3.   The method of claim 2 wherein the candidate advertising outlets are web

2 publishers.

1   4.   The method of claim 2 wherein the candidate advertising outlets are

2 Internet publishers.

1   5.   The method of claim 2 wherein the candidate advertising outlets are

2 electronic publishers.

1   6.   The method of claim 2 wherein the metric is generated by dividing the

2 number of counted users by the number of identified users.

1   7.   The method of claim 2 wherein the counting counts the number of

2 identified users that (a) have also visited the selected advertiser and (b) have not viewed an

3 advertising message for the selected advertiser,

4 and wherein the metric is generated by dividing the number of counted users by the number

5 of identified users.

1   8.   The method of claim 2 wherein the counting counts the number of

2   identified users that have also visited the selected advertiser without first viewing an

3   advertising message for the selected advertiser,

4   and wherein the metric is generated by dividing the number of counted users by the number

5   of identified users.

1   9.   The method of claim 2 wherein a related advertiser is related to the

2   selected advertiser,

3   and wherein the counting counts the number of identified users that (a) have also visited the

4   selected advertiser, (b) have not viewed an advertising message for the selected advertiser,

5   and (c) have not viewed an advertising message for the related advertiser,

6   and wherein the metric is generated by dividing the number of counted users by the number

7   of identified users.

1   10.   The method of claim 2 wherein a related advertiser is related to the

2   selected advertiser,

3   and wherein the counting counts the number of identified users that have also visited the

4   selected advertiser without first (a) viewing an advertising message for the selected advertiser

5   or (b) viewing an advertising message for the related advertiser,

6   and wherein the metric is generated by dividing the number of counted users by the number

7   of identified users.

1   11.   The method of claim 2 wherein the counting counts the number of

2   identified users that (a) have also visited the selected advertiser and (b) have viewed an

3   advertising message for the selected advertiser,

4   and wherein the metric is generated by dividing the number of counted users by the number

5   of identified users.

1   12.   The method of claim 2 wherein the counting increments the count for

2   each identified user that (a) visited the selected advertiser and (b) has viewed an advertising

3   message for the selected advertiser and decrements the count for each identified user that (c)

4   visited the selected advertiser and (d) has not viewed an advertising message for the selected

5   advertiser,

6   and wherein the metric is generated by dividing the count by the number of identified users.

1   13.   The method of claim 2, further comprising displaying the generated

2   metric for each candidate advertising outlet.

1   14.   The method of claim 2, further comprising:

2   analyzing the generated metrics; and

3   selecting a candidate advertising outlet on which to place one or more

4   advertising messages for the selected advertiser based upon results of the analysis.

1   15.   The method of claim 2, further comprising discerning users that have

2   visited the candidate advertising outlets and those that have visited the selected advertiser by

3   analyzing the contents of logs of one or more web servers that collectively receive a request

4   when a user visits one of the candidate advertising outlets and when a user visits the selected

5   advertiser.

1   16.   The method of claim 2, further comprising discerning whether a user

2   has visited the candidate advertising outlets and whether the user has visited the selected

3   advertiser by analyzing information traffic flowing to or from the user.

1   17.   The method of claim 16 wherein the analysis analyzes universal

2   resource locators contained in the traffic.

1   18.   The method of claim 16 wherein the analysis analyzes filenames

2   contained in the traffic.

1   19.   The method of claim 16 wherein the analysis analyzes content contained

2   in the traffic.

1   20.   The method of claim 16 wherein the analysis analyzes textual content

2   contained in the traffic.

1   21.   The method of claim 16 wherein the analysis analyzes visual content

2   contained in the traffic.

1   22.   One or more computer memories collectively containing an advertising

2   outlet inclination data structure, the data structure containing information indicating, for a

3   selected advertiser having a web page and each of a plurality of candidate advertising outlets,

4   the fraction of visitors to the web page of the selected advertiser that also visited the

5   candidate advertising outlet,

6   such that the contents of the data structure may be used to select a candidate advertising

7   outlet on which to place an advertising message for the selected advertiser.

1   23.   One or more computer memories collectively containing an advertising

2   outlet inclination data structure, the data structure containing information indicating, for a

3   selected advertiser having a web page and each of a plurality of candidate advertising outlets,

4   the fraction of visitors to the web page of the selected advertiser that both (a) visited the

5   candidate advertising outlet and (b) did not view an advertising message for the advertiser,

6   such that the contents of the data structure may be used to select a candidate advertising

7   outlet on which to place an advertising message for the selected advertiser.

1   24.   One or more computer memories collectively containing an advertising

2 outlet inclination data structure, the data structure containing information indicating, for a

3 selected advertiser having a web page and each of a plurality of candidate advertising outlets,

4 the fraction of visitors to the web page of the selected advertiser that also visited the

5 candidate advertising outlet before first viewing an advertising message for the advertiser,

6 such that the contents of the data structure may be used to select a candidate advertising

7 outlet on which to place an advertising message for the selected advertiser.

1   25.   A method in a computing system for assessing, for a selected electronic

2 advertiser and each of a plurality of candidate electronic publishers each having a website, a

3 measure of the desirability of placing with the candidate electronic publisher one or more

4 advertising messages for the selected candidate electronic advertiser, comprising:

5   selecting a distinguished electronic publisher that produced favorable results

6 when an advertising message for the selected electronic advertiser was earlier placed on the

7 distinguished electronic publisher, the distinguished electronic publisher having a website;

8   for each of a plurality of users, storing a user identifier on a computer system

9 used by the user, the number of stored user identifiers constituting a first quantity;

10   when one of the plurality of users visits the distinguished electronic publisher

11 advertiser website, receiving and storing an indication of a first type indicating that the user

12 visited the distinguished electronic publisher website, the indication containing the user

13 identifier stored on the computer system used by the user;

14   when one of the plurality of users visits the website of one of the plurality of

15 candidate electronic publishers, receiving and storing an indication of a second type

16 indicating that the user visited the candidate electronic publisher website, the indication

17 containing the user identifier stored on the computer system used by the user and an

18 identifier of the candidate electronic publisher;

19   selecting the user identifiers contained in stored indications of the first type;

20   determining the number of unique selected user identifiers, constituting a

21 second quantity;

22   for each of the candidate electronic publishers,

23   selecting stored indications of the second type that contain an identifier of the

24 candidate electronic publisher;

25   determining the number of unique user identifiers that are contained in at least

26 one of the selected indications of the second type, constituting a third quantity;

27   determining the number of unique user identifiers that are contained in at least

28 one of the selected indications of the second type that are also selected, constituting a fourth

29 quantity;

30   dividing the product of the first and third quantities by the product of the

31 second and fourth quantities to obtain an affinity metric for the candidate electronic

32 publisher;

33   analyzing the affinity metrics obtained for the candidate electronic publishers;

34 and

35   selecting one or more of the candidate electronic publishers on which to place

36 an advertising message for the advertiser based upon the analysis.

1   26.   The method of claim 25 wherein candidate electronic publishers for

2 which an affinity greater than one is obtained are selected.

1   27.   The method of claim 25 wherein candidate electronic publishers for

2 which an affinity greater than five is obtained are selected.

1   28.   A method in a computing system for assessing, for a selected advertiser

2 and each of a plurality of candidate advertising outlets, a measure of the desirability of

3 placing with the candidate advertising outlet an advertising messages for the selected

4 advertiser, comprising, for each of the plurality of candidate advertising outlets:

5   identifying a distinguished advertising outlet as likely to produce a good result

6 when an advertising message for the selected advertiser is place on the distinguished

7 advertising outlet;

8   for each of the candidate advertising outlets, measuring the tendency of visitors

9 to the distinguished advertising outlet to visit the candidate advertising outlet to obtain an

10 affinity metric for the candidate advertising outlets; and

11   based upon an analysis of the affinity metrics obtained for the candidate

12   advertising outlets, selecting one or more candidate advertising outlets on which to place an

13   advertising message for the selected advertiser.

1   29.   The method of claim 28, further comprising:

2   for each of a plurality of advertising outlets on which advertising messages for

3   the advertiser have already been placed, generating a success metric characterizing the level

4   of success attributable to placing an advertising message for the advertiser on the advertising

5   outlet; and

6   using the generated success metrics to select one of the advertising outlets on

7   which advertising messages for the advertiser have already been placed as the distinguished

8   advertising outlet.

1   30.   The method of claim 29 wherein the success metrics are generated based

2   upon a click-through rate for advertising messages placed on the advertising outlet.

1   31.   The method of claim 29 wherein the success metrics are generated based

2   upon a conversion rate for advertising messages placed on the advertising outlet.

1   32.   The method of claim 29 wherein the success metrics are generated based

2   upon an average purchase amount for advertising messages placed on the advertising outlet.

1   33.   The method of claim 29 wherein the success metrics are generated based

2   upon an factor specified by the selected advertiser for advertising messages placed on the

3   advertising outlet.

1   34.   One or more computer memories collectively containing an advertising

2   outlet affinity data structure relating to a selected advertiser and a selected advertising outlet

3   on which an advertising message for the selected advertiser has been successfully placed, the

4   data structure containing information indicating, for each of a plurality of candidate

5   advertising outlets, the extent to which visitors to the selected advertising outlet also visited

6   the candidate advertising outlet,

7   such that the contents of the data structure may be used to select one or more of the

8   candidate advertising outlet on which to place an advertising message for the selected

9   advertiser.

1   35.   A method in a computing system for selecting advertising outlets on

2   which to place advertising messages for an advertiser, comprising:

3   for each of a first plurality of advertising outlets, assessing the rate at which

4   visitors to the advertiser also visit the advertising outlet;

5   selecting an advertising outlet among the first plurality having the highest rate;

6   for each of a second plurality of advertising outlets, assessing the tendency of a

7   high-performing advertising outlet to drive its visitors to the advertising outlet among the

8   second plurality of advertising outlets; and

9   selecting an advertising outlet among the second plurality of advertising outlets

10   to which the high-performing advertising outlet has the greatest tendency to drive its visitors.

1   36.   A method in a data processing system for selecting advertising outlets at

2   which to advertise on behalf of an advertiser comprising:

3   for each of a plurality of advertising outlets, determining a first number of

4   consumers observed to visit the advertising outlet;

5   for each of the advertising outlets, of the number of different consumers

6   observed to visit the advertising outlet, determining a second number of consumers that also

7   visited the advertiser;

8   for each advertising outlet, dividing the second value by the first value to

9   obtain an inclination value; and

10   selecting advertising outlets at which to advertise on behalf of the advertiser

11   based on the inclination values of the advertising outlets.

1   37.   A method in a data processing system for selecting advertising outlets at

2   which to advertise on behalf of an advertiser comprising:

3   for each of a plurality of advertising outlets, determining a first number of

4   consumers observed to visit the advertising outlet;

5   for each of the advertising outlets, of the number of different consumers

6   observed to visit the advertising outlet, determining a second number of consumers that

7   (a) also visited the advertiser, and (b) were not observed to receive an advertising message

8   for the advertiser;

9   for each advertising outlet, dividing the second value by the first value to

10   obtain an inclination value; and

11   selecting advertising outlets at which to advertise on behalf of the advertiser

12   based on the inclination values of the advertising outlets.

TARGETING ELECTRONIC ADVERTISING PLACEMENT IN ACCORDANCE WITH AN ANALYSIS OF USER INCLINATION AND AFFINITY

ABSTRACT

A facility for selecting advertising outlets on which to place advertising messages for an advertiser is described. For each of a first group of advertising outlets, the facility assesses the rate at which visitors to the advertiser also visit the advertising outlet. The facility selects an advertising outlet among the first group having the highest assessed rate. For each of a second group of advertising outlets, the facility assesses the tendency of a high-performing advertising outlet to drive its visitors to the advertising outlet among the second group of advertising outlets. The facility selects an advertising outlet among the second group to which the high-performing advertising outlet has the greatest assessed tendency to drive its visitors.
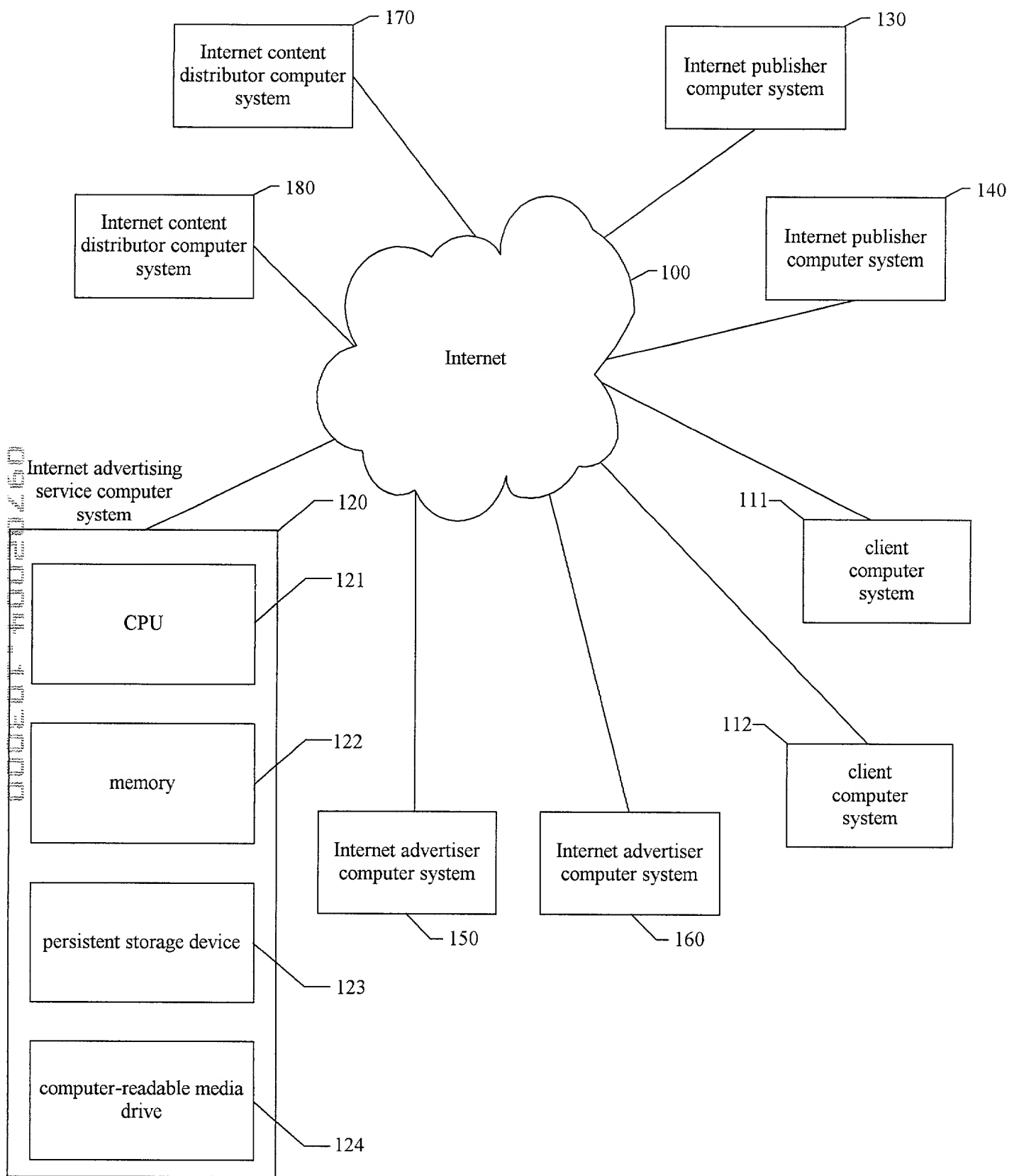
Internet content
distributor computer
system — 170

Internet content
distributor computer
system — 180

Internet publisher
computer system — 130

Internet publisher
computer system — 140

Internet — 100

Internet advertising
service computer
system — 120

CPU — 121

memory — 122

persistent storage device — 123

computer-readable media
drive — 124

Internet advertiser
computer system — 150

Internet advertiser
computer system — 160

111 — client
computer
system

112 — client
computer
system

Fig. 1

29150/8006/Fig 1 vsd